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In vitro evaluation of the feed quality of enzyme treated bristles and hooves

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Huge amounts of keratinaceous wastes such as feathers, hair and pig bristles are generated annually and cause a serious local disposal and accumulation problem. These keratinaceous wastes can be hydrolyzed by keratinolytic enzymes from fungi and bacteria and hereby converted into bioaccessible proteins, peptides and amino acids; products which can potentially be used to substitute significant portions of imported animal feed protein. In this study, we found an efficient bacterial keratin degrader, which can degrade chicken feather in 24 h. The total amino acid profile and content of the resulting hydrolyzed feed product was close to fish meal and soybean meal. The results suggest that conversion of keratinaceous waste might be a promising protein source for feed for fish and chicken.